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CLAIMS

1. (amended) A glass sheet quenching method comprising the steps of:

heating a glass sheet on carrying rollers to a predetermined temperature in a heating furnace;

radiating scattered microwaves or converged microwaves onto one side or both sides of the glass sheet through gaps between adjacent multiple air ducts of a quenching apparatus disposed with a substantially uniform spacing with respect to the carrying direction of the glass sheet, without hitting the carrying rollers; and

simultaneously with the radiation of the microwaves, blowing quenching air onto one side or both sides of the glass sheet from the air ducts, without hitting the carrying rollers.

2. The method of claim 1, wherein the frequency of the microwaves is 18GHz to 300GHz.

3. The method of claim 1, wherein the converged microwaves are scan-type converged microwaves scanned with an oscillating mirror.

4. The method of claim 1, wherein the converged microwaves are focused into a band of a length equivalent to the width of the glass sheet.

5. A quenching method according to claim 1, wherein the thickness of the glass sheet is 1.2mm to 2.5mm.

6. (amended) A glass sheet quenching apparatus installed downstream of a

heating furnace for heating a glass sheet traveling on carrying rollers to a predetermined temperature, the apparatus comprising:

a chamber that is substantially dome-shaped and has its inner surface made a reflecting surface above and/or below the glass sheet;

a reflector provided in the vicinity of the center of the dome;

a waveguide provided in the chamber for guiding microwaves toward the reflector; and

multiple air ducts having between them gaps for allowing microwaves to pass through, disposed with a substantially uniform spacing in the travel direction of the glass sheet, for cooling with air the upper side and/or the lower side of the glass sheet,

wherein the microwaves are radiated, without hitting the carrying rollers, onto the glass sheet by the microwaves being primarily reflected with the reflector and secondarily reflected with the inner surface of the dome-shaped chamber.

7. The apparatus of claim 6, wherein the reflector has rotating means for rotating it about the center axis of the waveguide.

8. (amended) The apparatus of claim 6, wherein lower air ducts among the multiple air ducts are disposed directly below the carrying rollers, the lower air ducts each has a plurality of nozzles, and the nozzles are disposed inclinedly so that air blown out of them does not hit the carrying rollers.

9. (added) The apparatus according to claim 6 wherein the reflecting surface comprises an irregularly reflecting surface.